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EXAMINER	
HUNTSINGER, PETER K	

ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/955,292	KAMISUWA, YOSHIKATSU	
	Examiner	Art Unit	
	Peter K. Huntsinger	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5,7-9 and 11-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,7-9 and 11-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

DOUGLAS Q. TRAN
PRIMARY EXAMINER

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-3, 5, 7-9, and 11-21 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 5, 7-9, 11, and 13-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amero et al. U.S. Patent 6,504,625, Ohta U.S. Patent 6,897,978, and Itoyama et al. U.S. Patent 6,488,353.

Referring to claim 1, Amero et al. disclose an image analyzing device comprising: a storage section (memory 52 of Fig. 1, col. 5, lines 51-53) which stores image data obtained by processing reference chart data including a plurality of patterns (col. 6, lines 26-41) for sampling each of a plurality of characteristic quantities indicating characteristics of a defective image (col. 10, lines 21-34), by using a device targeted for checking (step 300 of Fig. 4, col. 10, lines 11-14); and an image analyzing section which samples a characteristic quantity of a region in each of the plurality of patterns expressed in the image data stored in the storage section (col. 10, lines 21-27), the

image analyzing section performing a different processing for each different pattern in the image data so as to sample different characteristic quantities (col. 10, lines 5-14). Amero et al. do not disclose expressly expressing patterns based on a reference chart characteristic list. Ohta disclose storing patterns based on a reference chart characteristic list describing a characteristic of each pattern in a reference chart data (Fig. 13, col. 10, lines 33-49). The user interface, which includes a drop down menu of selectable pattern configurations, is considered a list because it contains an ordered collection. Amero et al. and Ohta are combinable because they are from the same field of correcting printer defects. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to store patterns based on their characteristics. The motivation for doing so would have been to allow patterns to be easily selected depending on their characteristics. Amero et al. do not disclose expressly a correlation table or label specifying section. Itoyama et al. disclose a correlation table which associates each of one or more labels for classifying defective image with at least one of the characteristic quantities corresponding to the respective label (predetermined threshold, col. 6, lines 43-53); and a label specifying section which specifies the label for a pattern in which the characteristic quantity is sampled by a image analyzing section from among a pattern expressed in the image data by referring to the correlation table (image processing unit 12 of Fig. 1, col. 3, lines 43-44). While Itoyama et al. do not disclose expressly the predetermined threshold as a correlation table, it would be obvious for the threshold to be stored as a table. The motivation for doing so would have been to express data in an organized form, such as an array, which is commonly

used in computer programming. Amero et al. and Itoyama et al. are combinable because they are from the same field of correcting printer defects. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to classify a defect image with a label. The motivation for doing so would have been to diagnose the defect as a nozzle or optical defect. Therefore, it would have been obvious to combine Ohta and Itoyama et al. with Amero et al. to obtain the invention as specified in claim 1.

Referring to claim 2, Amero et al. disclose wherein the reference chart data is a print image (col. 6, lines 26-41), and the image data is electronic data obtained by reading the print image by an image scanner targeted for checking (step 300 of Fig. 4, col. 10, lines 11-14).

Referring to claim 3, Amero et al. disclose wherein the reference chart data is electronic data (col. 6, lines 26-41), and the image data is electronic data obtained by further reading with an image scanner an image printed according to the electronic data by a printer targeted for checking (step 300 of Fig. 4, col. 10, lines 11-14).

Referring to claim 5 Amero et al. disclose wherein, with respect to the reference chart data, a plurality of known image patterns are disposed in a mesh manner, and the characteristic quantity sampling section uses processing suitable to sample characteristic quantities for each mesh (Fig. 3, col. 6, lines 26-41).

Referring to claim 7 Amero et al. disclose wherein the image analyzing device is provided in a personal computer (computer 20 of Fig. 1, col. 4, lines 36-48).

Referring to claim 8, Amero et al. disclose an image scanner which reads a document image and provides image data corresponding to the document image,

wherein the storage section stores read data obtained by reading an arbitrary sample with the image scanner (scanner 40 of Fig. 1, col. 4, lines 42-45). Ohta disclose a pattern analyzing section which analyzes characteristics including a pattern configuration (density patches, col. 7, lines 8-12) of read data stored by a storage section and adds characteristics including the analyzed pattern configuration to the reference chart characteristic list (Fig. 4, col. 7, lines 21-26); and wherein the arbitrary image sample and the read data are used as new reference chart data (Fig. 4, col. 7, lines 21-26).

Referring to claim 9, Amero et al. disclose an image analyzing device comprising: a storage section (memory 52 of Fig. 1, col. 5, lines 51-53) which stores image data obtained by processing reference chart data including a plurality of patterns (col. 6, lines 26-41) for sampling each of a plurality of characteristic quantities indicating characteristics of a defective image (col. 10, lines 21-34), by using a device targeted for checking (step 300 of Fig. 4, col. 10, lines 11-14); and an image analyzing section which samples a characteristic quantity of a region in each of the plurality of patterns expressed in the image data stored in the storage section (col. 10, lines 21-27), the image analyzing section performing a different processing for each different pattern in the image data so as to sample different characteristic quantities (col. 10, lines 5-14). Amero et al. do not disclose expressly expressing patterns based on a reference chart characteristic list. Ohta disclose storing patterns based on a reference chart characteristic list describing a characteristic of each pattern in a reference chart data (Fig. 13, col. 10, lines 33-49). The user interface, which includes a drop down menu of

selectable pattern configurations, is considered a list because it contains an ordered collection. Amero et al. and Ohta are combinable because they are from the same field of correcting printer defects. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to store patterns based on their characteristics. The motivation for doing so would have been to allow patterns to be easily selected depending on their characteristics. Amero et al. do not disclose expressly a correlation table or label specifying section. Itoyama et al. disclose a correlation table which associates each of one or more labels for classifying defective image with at least one of the characteristic quantities corresponding to the respective label (predetermined threshold, col. 6, lines 43-53); a label specifying section which specifies the label for a pattern in which the characteristic quantity is sampled by a image analyzing section from among a pattern expressed in the image data by referring to the correlation table (image processing unit 12 of Fig. 1, col. 3, lines 43-44); a cause estimating section which narrows a candidate of causes of a defect according to a phenomenon specified by the label specifying section and other information (S5 of Fig. 9, col. 6, lines 53-55); and a display section which displays the phenomenon specified by the label specifying section and the causes of the defect estimated by the cause estimating section (display unit 10 of Fig. 1, col. 6, lines 55-60). While Itoyama et al. do not disclose expressly the predetermined threshold as a correlation table, it would be obvious for the threshold to be stored as a table. The motivation for doing so would have been to express data in an organized form, such as an array, which is commonly used in computer programming. Amero et al. and Itoyama et al. are combinable because they are from

the same field of correcting printer defects. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to classify a defect image with a label. The motivation for doing so would have been to diagnose the defect as a nozzle or optical defect. Therefore, it would have been obvious to combine Ohta and Itoyama et al. with Amero et al. to obtain the invention as specified in claim 9.

Referring to claim 11, Itoyama et al. disclose wherein the other information is an internal parameter of a device targeted for checking (col. 10, lines 47-57).

Referring to claim 13, Itoyama et al. disclose wherein the other information is input information from an operator (col. 9, lines 56-59). Itoyama further teaches that the user determines whether the defect is caused by a needing to clean the print heads (col. 10, lines14-18).

Referring to claim 14, Itoyama et al. disclose wherein the other information is information on past checking results (Fig. 13, col. 7, lines 47-55).

Referring to claim 15, Itoyama et al. disclose a communication section which transmits to the outside the phenomenon classified by an image analyzing section and the causes of defect estimated by the cause estimating section (display unit 10 of Fig. 1, col. 6, lines 55-60).

Referring to claim 16, Amero et al. disclose a scanner section which reads a document image and provides document image data corresponding to the document image (scanner 40 of Fig. 1, col. 4, lines 42-45); and a printer section which forms an image corresponding to the image data provided from the image scanner, wherein the

image data is the document image data provided from the scanner section (printer 30 of Fig. 1, col. 4, lines 39-45).

Referring to claim 17, Amero et al. disclose a scanner section which reads a document image and provides document image data corresponding to the document image (scanner 40 of Fig. 1, col. 4, lines 42-45); and a printer section which forms an image corresponding to the image data provided from the image scanner, wherein the image data is document image data obtained by further reading with the scanner section the image formed by the printer section according to known reference data produced as electronic data, by use of the scanner section from the scanner section (printer 30 of Fig. 1, col. 4, lines 39-45).

Referring to claim 18, Amero et al. disclose wherein the image checking device is provided in a personal computer (computer 20 of Fig. 1, col. 4, lines 36-48).

Referring to claim 19, Amero et al. disclose wherein the image checking system is provided in a network controller connected to the device targeted for checking via network (computer 20 of Fig. 1, col. 4, lines 36-48). While Amero et al. do not disclose expressly a computer within a network, Official Notice is taken that it would have been obvious to connect a computer to a network. The motivation for doing so would have been to connect a computer to other computer and devices for transmitting data. A computer system is capable of monitoring and controlling a network, and is therefore capable of acting as a network controller.

Referring to claim 20, Amero et al. disclose wherein the image analyzing section is provided in a network controller connected to the device targeted for checking via

network, and the cause estimating section is provided in a computer system connected to the network controller via communication network (col. 4, lines 56-61). While Amero et al. do not disclose expressly a computer within a network, Official Notice is taken that it would have been obvious to connect a computer to a network. The motivation for doing so would have been to connect a computer to other computer and devices for transmitting data. A computer system is capable of monitoring and controlling a network, and is therefore capable of acting as a network controller. Itoyama et al. disclose the cause estimating section is provided in a computer system (col. 4, lines 56-61).

Referring to claim 21, Amero et al. disclose wherein the image checking system is provided in a personal computer connected to the device targeted for checking via LAN (computer 20 of Fig. 1, col. 4, lines 36-48). Official Notice is taken that it would have been obvious to connect a computer to a scanner via a LAN. The motivation for doing so would have been to allow the device to be usable by a network of computers.

4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Amero et al. U.S. Patent 6,504,625, Ohta U.S. Patent 6,897,978, and Itoyama et al. U.S. Patent 6,488,353 as applied to claim 9 above, and further in view of Allen et al. Publication US 2002/0180996.

Referring to claim 3, Itoyama discloses the cause estimating system but does not disclose expressly narrowing the cause of a defect according to the output of an internal sensor. Allen et al. disclose determining a defect based on an output value of a sensor

(page 3, paragraph 32). Itoyama et al. and Allen et al. are combinable because they are from the same field of printing and scanning a test page. At the time of the invention, it would have been obvious to utilize a sensor in narrowing the cause of a defect. The motivation for doing so would have been to improve the accuracy of detecting a defect by determining the possible conditions that cause a certain defect. Therefore, it would have been obvious to combine Allen et al. with Itoyama et al. to obtain the invention as specified in claim 12.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter K. Huntsinger whose telephone number is (571)272-7435. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (571)272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PKH

DOUGLAS Q. TRAN
PRIMARY EXAMINER